

11. "Parthenocarpy in Cucumbers," by A. F. Blakeslee and P. A. Warren.
12. "The Vegetation of the Hempsted Plains, Long Island," by R. M. Harper.
13. "Trimorphism and insect visitors of *Pontederia*," by Tracey E. Hazen.

At both the New York and Brooklyn Gardens tea was served, and many availed themselves of the opportunity to inspect the buildings and collections. The committee who had charge of the anniversary consisted of N. L. Britton, *Chairman*, C. S. Gager, R. A. Harper, M. A. Howe, who acted as secretary for all the meetings, and H. M. Richards. They request that all papers read at the meetings be in the hands of Dr. Britton before the close of the year, in order to ensure their inclusion in the anniversary volume of the *Memoirs* which goes to press January 1, 1918.

## THE EARLIEST GLOSSARY OF BOTANICAL TERMS; FUCHS 1542

BY HELEN A. CHOATE

Among the more important German herbals of the sixteenth century the *De Historia Stirpium* of Leonardus Fuchsius, or Fuchs, is doubtless the best known, owing to its many plant descriptions and exceptionally fine wood cuts. A further point of interest, less well known but of much value, is its glossary of botanical terms which is considered by Sachs\* and by Greene† to be the first of its kind. This glossary appeared only in the now rare first, or Latin, edition of 1542, and seems never to have been translated or published in English.

It is especially interesting to ascertain how many of the terms appearing in this first attempt to organize botanical terminology are still in use to-day. As a present standard I have taken Jack-

\* Sachs, J., *History of Botany*, translated by Garnsey and Balfour, Oxford, pp. 20 and 21, 1906.

† Greene, E. L., *Landmarks of Botanical History*, Smithsonian Miss. Coll., 1909, p. 197.

son's Glossary of Botanic Terms,\* and by comparison with that work have divided Fuchs's list into four groups, viz., (1) those terms still in use with identical or closely related meaning; (2) those in use but with changed meaning; (3) those obsolete; (4) those which are not botanical terms; and the status of each word on this plan is indicated at the close of its definition in the following list. Thus it appears that of the 127 terms (exclusive of synonyms) in Fuchs's list, 83 or 66 per cent. belong to Group 1; 22 or 17 per cent. to Group 2; 14 or 11 per cent. to Group 3; and 7 or 6 per cent. to Group 4.

The translation has been difficult, because the Latin of Fuchs's time was far from classical. In at least two places there are obvious misprints. The definitions are often wordy and far from clear, but I have taken no liberties with the text, my translation of which is intended to render as closely as possible the original work of Fuchs.

I wish to acknowledge the courtesy of the librarian of Harvard University in loaning me the copy of Fuchs's Herbal from which my copy was made, and I desire also to express my thanks to Dr. William Muss-Arnolt of the Boston Public Library without whose generous aid my treatment of the Greek terms would have been far from complete.

AN EXPLANATION OF CERTAIN TERMS OCCURRING FREQUENTLY  
THROUGHOUT THIS WORK WHICH THE INEXPERIENCED  
READER MIGHT BE AT A LOSS TO UNDERSTAND.

Acetabula. Acetabula seem to have been named from *acetum*, although some think the word derived from *accipiendo*, and so write *acceptabulum*. They are cup-shaped vessels without wide rims, which, filled with vinegar, are set before one for sauce. Thence the word has been transferred to all other objects having a similar shape. First they have so named the concave places in the tentacles of polyps, by which this animal advances and, as if propped on these supports, raises itself. Then the word is transferred to the

\* Jackson, B. D., A Glossary of Botanic Terms, J. B. Lippincott Co., Philadelphia, 1900.

- womb and they call acetabula the openings of the veins and arteries which are said to open into the uterus. Even later this name was given to a plant which they named Acetabulum because it has leaves arranged in a circle like an acetabulum, descending gradually into a hollow cavity so that they deceive the senses. The Greeks call this *κοτυληδόνας*. [Cf. Acetabuliform.]
- Acinus. Acinus means not only the stones within the grape as some think, but the whole fruit, which consists of juice, the flesh-like part, the stones, and the enclosing skin. Galen is our authority, who has written in Book 2, *De facultatibus alimentorum*: "The acinus consists of four parts, of that, naturally, which is as it were, flesh, and of that liquid scattered through it whence we obtain wine, moreover of the stone, and of that membranous covering which encloses all these on the outside. By the Greeks it is called *ράξ*. [Cf. Acinus, Acinarius.]
- Aculei. Any rough, cone-shaped, pointed bodies which prick like thorns are called aculei. [Cf. Aculeus, Aculeate.]
- Acus. Acus is the refuse of the grain, namely the lightest part of that which is thrown beyond the threshing floor by the winnowing forks. [Obsolete.]
- Adnata. Adnata or Adnascentia or Appendices are branches which the trunk (caulis) occasionally produces like a new or adopted off-shoot. They are so called because they have, as it were, grown upon or been added to the stem. The Greeks call them *παραφύαδες* because they grow around the stem. (Cf. Adnascent.)
- Alae. Alae are the angles between the stem and branches from which successive new shoots originate. They are so called by analogy to the human armpit. The Greeks call them *μασχάλαι*. [Obsolete in this sense. Cf. Alae.]
- Alabastra. Alabastra are jars for holding perfume, made of very substantial and cold material, so called by the Greeks because it is difficult to hold them on account of their smoothness, and they easily slip and fall. Alabaster stone, now termed alabaster, is so called because alabastra are made from it. [Obsolete in this sense. Cf. Alabastrum.]

- Aluta.** A skin or hide is called *aluta* after it has been prepared for making shoes and other articles. Hence *alutamen* or *alutamentum* is an article made from prepared skins, and *alutarii* are workers in skins and hides. [Cf. *Alutaceous*.]
- Alsiosa.** The word *alsiosa* describes not those plants which flourish in cold places, but rather those which cannot stand coldness. [Obsolete.]
- Amuleta.** *Amuleta* are instantaneous remedies against poisons and witchcraft, and are commonly worn in rings or about the neck. [Not a botanical term.]
- Amphora.** An *amphora* is a measure which holds two urns or eight *congi*. [Obsolete in this sense. Cf. *amphora*.]
- Apices.** *Apices* are stamens (*stamina*) which shoot forth in the midst of the calyx or bag (*folliculus*) which contains the flower, and like filaments spring up from the lowest recesses of the flower. *Apices* frequently have at their summit a little knob-like structure which gives them their name. [Obsolete in this sense. Cf. *apex*, *apices*.]
- Arbor.** An *arbor* is that which rises firmly and directly from the root with a simple, solitary trunk (*caudex*), woody and with arm-like branches (*rami*). [Cf. *Arbor*.]
- Articuli.** *Articuli* are swollen joint-like places (*nodi*) from which branches very often develop. [Cf. *Article*.]
- Asparagi.** The first shoots of herbs to appear above ground before the leaves develop, and very young edible shoots are called *asparagi*. [Cf. *Asparagus*.]
- Arista.** An *arista* is that which projects beyond the husk (*gluma*) like a long slender needle. In short, *aristae* are, as it were, stamens (*apices*) and horns of spikes. [Cf. *Arista*.]

## B

- Baccae.** *Baccae* are the smaller fruits of herbs, shrubs, and trees, which appear more sparsely and at greater intervals, as the fruit of the laurel. And they differ from berries (*acini*) in that the latter are produced in greater profusion. [Cf. *Bacca*.]
- Brachia.** *Brachia* of plants are those parts which spread out

like a man's arms, especially the little branches of trees. [Cf. Brachiate.]

Bulbi. Bulbi are round tunicated roots such as those of hyacinth, asphodel and colchicus. [Cf. Bulb.]

## C

Cachryes. Cachryes are rather long cones (nucamenta) like panicles (panicula) with many scales which hang from the branches. They grow in the winter, then spread out into scales which turn yellow, and fall, when the leaves appear. They occur in pine, fir and many other trees. Pliny calls them pilulae. [Obsolete.]

Calathus. A calathus is an upright top-shaped structure (turbo) *i. e.*, one which broadens out from a narrow base. The flower of the lily shows clearly the form of a calathus. [Obsolete in this sense. Cf. Calathide.]

Calyx. The calyx is the bag (follicus) in which first the flower, afterward the fruit is enclosed. [Cf. Calyx.]

Capillamenta. Very small parts, rounded off, and rather long and hair-like in shape are called capillamenta. [Cf. Capillaceous.]

Caput. A caput is any structure, basal or terminal, which has a globular form due to swelling up or to condensation. If it is relatively small it is called a capitulum. The term is used for the farthest portion of the vine, *i. e.*, the most remote and most fruitful shoot. [Obsolete in this sense. Cf. Caput.]

Capreoli. Capreoli are little twisted branches, like curls, appearing on the more slender shoots (pampini) by which vines, as if by hands, clasp and cling to supports. For these, in order to hold the vine, creep along to places to which they can cling, and because of their clinging are called capreoli. [Cf. Capreolate.]

Caro. Caro is the part directly beneath the bark (cortex). [Obsolete.]

Caudex. In trees and shrubs that is called the caudex or trunk which rises singly above ground from the root and into which

the food is brought from the root. [Obsolete in this sense. Cf. Caudex.]

**Caulis.** In herbs the part which rises singly above ground is designated as the caulis. So caudex relates only to trees and shrubs, caulis to herbs. [Cf. Caulis.]

**Cervix.** Cervix is that very long and round part appearing from capitate roots. So called from its resemblance to the neck. [Obsolete.]

**Cyathus.** Cyathus is the twelfth part of a sextarius, so called by the Greeks from a word meaning to pour, *χβειν*. [Obsolete in this sense. Cf. Cyathiform.]

**Cymae.** Cymae of herbs are very delicate and slender stems which are produced at the first budding and on the top of the stalk. For when spring approaches at the very first appearance of leaves, the cabbage, in which the flower buds up to this time have been suppressed, develops certain shoots (quasi turiones) in which the embryo first of the flower then of the seed is hidden. [Obsolete in this sense. Cf. Cyme.]

**Cirri.** Cirri are very much twisted filaments (capillamenta). [Cf. Cirrus.]

**Claviculae.** Claviculae are tendrils by which, as if by hands, the on-creeping vine grasps supports. [Cf. Clavicle.]

**Coma.** Coma is any thing which in a very pleasing manner like hair adorns the summits of branches or trees. [Cf. Coma.]

**Congius.** A congius, which the Greeks call *χοῦς*, is a measure holding six sextarii. It is also called a congiarium. [Not a botanical term.]

**Conus.** The conus or pyramis of the Greeks is an inverted turbo, that is, something which diminishes in width and is drawn into a point. It is the opposite of our word calathus. [Obsolete in this sense. Cf. Cone.]

**Cor.** Cor is that which lies in the heart of the wood, and is enclosed for the third time by the bark (cortex), like the marrow in the bones. By some it is called the matrix, by others the medulla. [Obsolete.]

**Corymbus.** A corymbus is the fruit of the ivy, consisting of a



- cluster of hanging berries (acini), but the term is transferred to the fruit of many plants. [Obsolete in this sense. Cf. Corymb.]
- Cortex. Cortex is the last part separable from the underlying tissue, like a crust for covering. [Cf. Cortex.]
- Cotyle. Cotyle is a word of Greek origin, the equivalent of the Latin hemina. See Hemina.
- Crenae. Crenae are a kind of incision on the extreme edge of leaves, giving them the name crenate, that is serrate, and cut on the edge. [Cf. Crena, Crenate.]
- Cubitus. A cubitus is a measure extending from the elbow to the end of the middle finger, *i. e.*, six palmii or twenty-four digits. [Cf. Cubit.]
- Culmus. The culmus is the stem of the grain which bears the spike (spica). [Cf. Culm.]

## D

- Decussis. A decussis was made by the ancients in the form of the letter X, which to the Latins meant ten. Hence to be decussate is to be arranged in the form of an X. [Cf. Decussate.]
- Dilutum. A dilutum is a mixture. So wine mixed with water is a dilutum. However, a true dilutum is a liquid into which something has been poured and has steeped for a certain time: if wormwood has been poured into a jar of wine, the wine, when drawn off after a while, is called a dilutum of wormwood. [Obsolete.]
- Dodrans. A dodrans is a measure of twelve digits, formerly called by the Romans palmus major, by the Greeks *σπιθαμή*. So a stem is called a dodrantalis if it is twelve digits long. [Cf. Dodrans.]

## E

- Echinus. An echinus is any thing thickly covered with numerous spines, whether back, or head, or top; so called because of its resemblance to the round mass of spines of a sea hedgehog. [Obsolete.]

## F

- Fibrae.** Fibrae are akin to thread-like filaments (capillamenta) and form the smaller roots of herbs and trees into which the larger ones eventually branch freely. [Cf. Fibre.]
- Fimbriae.** Fimbriae are the fringes of garments, and hence leaves are said to be fimbriate which end in a kind of fringe at the edge. [Cf. Fimbria, Fimbriate.]
- Flagella.** Flagella are the cymes (cymae) of trees and the highest parts which are moved by every breath of wind; and they have even derived their name from this that they are sought by the breezes. Moreover flagella are the longer and more extended shoots (rami) of vines, though shorter in some, arising upright from the branches; formerly called flabella probably from the blowing of the wind. [Obsolete in this sense. Cf. Flagellum.]
- Folliculus.** A folliculus is a case of any kind which encloses a grain or seed. So the membranous skin of a berry (acinus) is called a folliculus. [Cf. Follicle.]
- Fructus.** The fructus is that which consists of pulp and seed. Yet frequently in place of that, is understood whatever is collected in a wrapper in the same way as seed and pulp. [Cf. Fructus.]
- Frutex.** A frutex is that which sends up from the root many branching stems as a bramble bush. [Cf. Frutex.]
- Frons.** Frons is sometimes used for branch (ramus). Properly speaking, however, it is that which the branch (ramus) produces on all sides, having sometimes many leaves and some bark, like a little stem. [Cf. Frond.]

## G

- Gemma.** The gemma on the vine is the same as a bud (oculus), because it can be discerned just as a little visible eye or certain fine jewel, when it is first produced on the vine or twig (sarmentum). As the spring advances it appears and from this, first the flower, then the fruit is produced on vines just as in trees. [Cf. Gemma.]
- Geniculi.** Geniculi or genicula are joints which are found in



herbs or legumes or even shrubs. So roots are termed geniculate which, divided as it were by joints, swell up into a round or somewhat head shaped structure. [Cf. Geniculate, Geniculum.]

Gluma. The gluma is the covering (folliculus) or case of the grain which is produced on the spike (spica). [Cf. Glume.]

Grossi. Figs which do not ripen are called grossi. Yet generally in a fig bearing fruit twice a year those which mature during the harvest are meant. These grossi the Greeks call *ὀλύνθοι*. [Obsolete.]

## H

Hemina. Hemina is a Roman word derived from the Greek *ἥμισον* which is half a sextarius. The Greeks call it *κοτύλη*. It holds ten unciae as we have fully shown in our notes on the fourth book of Galen on the preservation of health. [Not a botanical term.]

Herba. An herb is a stemless plant with radical leaves, the seed often being borne on a stalk. [Cf. Herb.]

## I

Internodium. The part between the knots or joints (genicula) is commonly called an internodium. [Cf. Internode.]

Intervenium. Intervenium is the space between the veins. [Cf. Intervenium.]

Iuba. Iuba is a reed-like hairy growth (coma), such as is in millet. The metaphore is taken from the term *iuba* meaning an animal's mane. [Cf. Juba, Jubatus.]

Iulus. With both Greeks and Latins a iulus is the closely-compact, hard clusters of fruit found on the hazel, which like very long worms hang each on a pedicel and precede the fruit. [Cf. Julius, Julaceous.]

## L

Lachryma. Lachryma is that liquid which is seen exuding rapidly as soon as a root or branch or even the wood itself is broken. [Cf. Lachryma.]

Lanugo. Lanugo is a downy hairiness in herbs and trees which

causes the leaves and young stems to grow gray. [Cf. Lanuginose, Lanugo.]

**Liber.** Liber is that part of the bark (cortex) which lies next to the wood. This gives the name to the books in which we write. [Cf. Liber.]

**Libra.** A Roman libra contains twelve ounces. [Not a botanical term.]

**Ligula.** A ligula is the fourth part of a cyathus, that is a semuncia or two scruples. [Obsolete in this sense. Cf. Ligule.]

**Loculamenta.** Loculamenta are cases which, like little boxes, enclose the seeds. [Cf. Loculus.]

**Lomentum.** Lomentum is bean meal. [Cf. Lomentaceous.]

**Lacineae.** Lacineae are margins cut into bits for the sake of decoration, and clippings of the extreme edge. Hence leaves divided into sections by means of sinuses, or separated according to their natural divisions are called lacinate. However there are those who use the term lacinosum for sinuosum. [Cf. Lacinia, Laciniata.]

## M

**Malicorium.** Malicorium is the rind of a pomegranate. [Cf. Malicorium.]

**Malleolus.** Malleolus novellus is the young shoot of a vine produced upon last year's branch (flagellum), called from its resemblance to the object, because where it is cut off from the old twig (sarmentum) which extends on both sides, it has the appearance of a mallet. Or because it is wont to be planted pruned and with projections on both sides.\* [Cf. Malleolus.]

**Matrix.** See Cor.

**Medulla.** See the same.

**Mucro.** A mucro is a point which terminates any part. Thus many leaves, certain siliques and all spines are sharp-pointed at the tip. [Cf. Mucro, Mucronate.]

**Muscus.** Muscus is that woolly substance that appears on the very surface of the bark (cortex) of some trees, just as the

\* In the original the term "capillatus" is evidently a misprint for "capitulatus."

hoary hair of certain trees. Occasionally even a tree itself, which looks like a shaggy mass of flowers because of the great abundance of blossoms massed together was wont to be called a muscus as in *Ligustrum* and many others. [Obsolete in this sense. Cf. *Musci*.]

**Muscaria.** *Muscaria* are radially arranged hairy growths (*comae*) of herbs, or clusters of tips: named from their likeness to a fly brush by whose movement flies are driven away from the tables. [Cf. *Muscariform*.]

## N

**Nucamenta.** *Nucamenta* are those structures with compact scale-like coverings which hang from the branches of nut, oak and fir trees: so called because they seem attempts of nature to make pine nuts. [Cf. *Nucamentum*.]

## O

**Oculus.** The little bud on the shoots of plants which is the first sign of growth is called an *oculus*. [Cf. *Oculus*.]

## P

**Palma.** *Palma* denotes a larger branch (*flagellum*) on a vine on which bunches of grapes are produced. [Obsolete.]

**Palmus.** *Palmus* had a two-fold meaning with the ancients. *Palmus minor*, called by the Greeks *παλαιστή*, consisting of four digits; *palmus major* consisting of twelve digits called by the Greeks *σπιθαμή*. [Cf. *Palm*, *Palmus*.]

**Palmites.** *Palmites* are shoots which originate annually from stems and branches (*surculi*); so called because they produce twigs like fingers in the manner of the human hand. [Obsolete.]

**Pampini.** *Pampini* are the hairy outgrowths (*comae*) of leafy shoots and the stems producing fruit and protecting it from possible injury. Hence to *pampinate* is to remove the superfluous *pampini* from a vine after it has leafed out. [Cf. *Pampiniform*.]

**Panacula.** Anything may be called a *panacula* which swells up

into a somewhat long or rounded structure such as hangs from the branches of pines. Also the woolly hair (coma) in millet, grass or reeds, such also as many field herbs and rushes in the swamps produce, the Latins call panicula. [Obsolete in this sense. Cf. Panicle.]

Pappus. Pappus with both Greeks and Latins means the deciduous down (lanugo) of flowers and fruits. But it applies also to certain woolly hairs which remain in some plants after the flowers are past and afterwards disappears into the air as in Senecio, Sanchus and other plants. [Cf. Pappus.]

Pediculus. Pediculus or petiolus is that part by which a leaf, flower, or fruit hangs. [Cf. Pedicle, also Petiole.]

Pedamenta. Those parts are called pedamenta by which a vine stands erect, *i. e.*, those which it uses as feet. Some even call them pedamina. [Obsolete.]

Pilula. See Cachrys.

Pyramis. See Conus.

Propago. Propago is an old vine bent down and buried in the earth in the form of arches, so that from one many vines grow. [Cf. Propago.]

Pulpa. Pulpa in trees corresponds to the muscle of animals. [Obsolete in this sense. Cf. Pulp.]

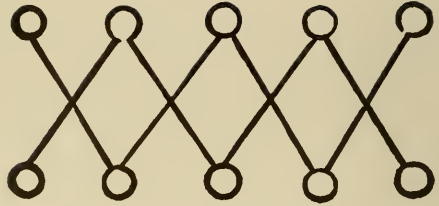
Pulvinus. A pulvinus is a small ridge between furrows, so called because it bears a certain resemblance to the saddles in which we sit. [Cf. Pulvinate, Pulvinus.]

## Q

The quincuncial figure is half of the figure which to the ancients signified the decussis. The decussis indeed was made in the form of the letter X, which to the Latins meant ten. And if this is cut in half the figure V remains which indicated the number five as well as the quincunx. But if many of these are arranged, some upright, some inverted, they form a figure called quincuncial. Such clearly the stem of Trichomanes shows. It is fitting to append the printed form of the quincunx and of the quincuncial arrangement. [Cf. Quincunx.]



Quincunx.



Ordo quincuncialis.

## R

**Racemus.** Racemus is used for uva\*, not only, however, in the case of a grape vine, but even in the ivy and other herbs and shrubs bearing certain kinds of clusters. Furthermore that part is called racemosum on which the berries hang. [Cf. Raceme.]

**Rami.** Rami are the numerous branches arising from the fission of the stem (caulis). [Cf. Ramus.]

## S

**Sarmenta.** Sarmenta are very long shoots into which a vine branches luxuriantly. The term refers to the wood of the branches and stem of the vine not only while actually on the vine, but even when cut and removed. [Cf. Sarment.]

**Scapus.** A scapus is a stem (caulis) which stretches upward like a stake or is carried aloft; named from its resemblance to a columnar shaft. [Cf. Scape.]

**Scopus.** Scopus is the branch from which berries hang. [Obsolete.]

**Sesqui.** The word sesqui when joined to one of measure, quantity, number or time indicates not only the whole of that to which it is joined but a half more. So sesquibra means one and one half librae, sesquimensis a month and a half. [Cf. Sesqui.]

**Sextarius.** A sextarius holds twenty unciae. [Not a botanical term.]

**Siliqua.** A siliqua is the cover within which the seeds of legumes or other plants are found. For not only legumes but many other shrubs and herbs also bear siliquae. [Cf. Silique.]

\* Literally uva means a bunch of grapes.

- Sinus.** Sinuses are the angles of axils (*alae*). [Cf. *Sinus*.]
- Spica.** *Spica* is that which the stem of the grain (*culmus*) bears. Formerly the country people called it *specā*—seemingly named from *spe*. For they sow that for which they hope. Indeed it contains three parts, the seed, the husk (*gluma*), and the awn (*arista*). *Spica mutica* is one without an awn, *mutica* for *mutila*. [Obsolete in this sense. Cf. *Spike*.]
- Spongiae.** Ancient authors called tangled and entwined roots *spongiae*. Hence the roots of vigorous cultivated asparagus, coalescing by many twisted fibres (*capillamenta*), and interwoven forming a unit as it were, are called *spongiolae*, *spongiae*, and *spongiosae*. [Obsolete.]
- Stamina.** *Stamina* are those knobs (*apices*) which spring up in the middle of the calyx; they are so called because they grow out like filaments from the lowest portion of the flower. [Cf. *Stamen*.]
- Stipulae.** *Stipulae* are leaves surrounding the stem. [Cf. *Stipules*.]
- Striae.** *Striae* are certain elevated and projecting parts. Hence a striate stem is one possessing *striae* of this kind, or roughened with striatures. The term *strigiles* is also used if we believe *Vitrurius*. (Cf. *Striate*.)
- Stolones.** *Stolones* are the shoots from stems and the useless suckers from roots. [Cf. *Stolon*.]
- Suffrutices.** *Suffrutices* are plants with very abundant branches and woody shoots, but with uniformly small leaves. [Cf. *Suffrutex*.]
- Surculus.** *Surculus* is that which springs simply and alone from the branch, and is like a kind of bud produced on the trunk or stock (*caudex*). [Obsolete in this sense. Cf. *Surculus*.]

## T

- Thyrsus.** *Thyrsus* is a stem (*caulis*) and deserves this name because it rises like a wand or spear. [Cf. *Thyrse*.]
- Tomentum.** By *tomentum* the Latins meant anything with which mattresses could be stuffed to make them softer and warmer, whether this be wool or feathers, or anything else



- one wishes, suitable for making them softer and keeping the body warm. So the leaves of Dictamnus which seem to be soft are called tomentitia and lanea by Dioscorides, that is, *γναφαλοειδῆ*. [Cf. Tomentose.]
- Tori. Hard fleshy protruberances of parts are called tori. The Greeks called them *κόνδυλοι*. Hence *κονδυλώδης*, *i. e.*, torosus, means to the Latins a knot-like formation. [Obsölete in this sense. Cf. Torus.]
- Triens. A triens equals four cyathi. [Not a botanical term.]
- Tunica. Tunica is a thin and membranous bark (cortex) in which either a tree or root is wrapped. Thus an onion is tunicated with scales (folliculi). [Cf. Tunic, Tunicated.]
- Turbo. Whatever, starting from a point, expands to greater size is called a turbo. Hence whatever advances uninterruptedly from narrower to wider is called turbinate. Thus the shape of the pear is seen to be turbinate. Moreover many leaves are turbinate at the tip. [Cf. Turbinate.]
- Turiones. Turiones are the very slender shoots of the tops of trees which grow each year. [Obsölete in this sense. Cf. Turion.]
- Topiarium. Topiary work is that which arranges trees, shrubs, or herbs into arches or vaults for decoration. Hence those trees and herbs should be called topiariae which are particularly adapted to this work owing to their natural flexibility and pliancy. [Cf. Topiary.]

## V

- Vacula. Vascula are seed cases. [Obsölete in this sense. Cf. Vasculum.]
- Venae. Venae are parts having both branches and juice which are present in the leaves of plants. [Obsölete in this sense. Cf. Vena, Venation.]
- Vermiculatum.\* That which grows red, almost dark purple like a rose, is called vermiculatum.
- Verticillum. A circle of leaves or flowers which crowns the stem or branch of an herb constitutes a verticillum, named from

\* Misprint, vermiculatum means wormlike.

its resemblance to the woman's instrument which is wont to be fastened to the spindle to turn it. [Cf. Verticillate.]

Vinacei. Vinacei are seeds of grapes (acini), called by the Greeks *γίγατρα*, and are rejected with the skin (folliculus) from the pressed grapes. [Obsolete.]

Virga. Virga is a shoot growing from the roots or the side of a stem. By some virgæ are called soboles. [Cf. Virgate.]

Virgultum. Virgultum is a branch which is planted that it may grow into a tree. [Obsolete in this sense. Cf. Virgultum.]

Viticulae. Viticulae are not branches (palmites) nor twigs (sarmenta) but shoots (flagella) which spread far and wide, creeping like a vine. And they so entangle neighboring fruits with which they come in contact that they use them like props, or in climbing catch them with their tendrils (claviculi) by which they cling as with fingers, as is found among cucumbers, squashes and many other plants. [Cf. Viticulae.]

Vmbella. Vmbella is the stem of a flower or seed, divided into many longer and smaller stems (pediculi), which, arising simultaneously at the same point, spread out farther and farther, each bearing a seed or flower, so forming a circle. The Greeks called this floral arrangement *σκιάδιον*, but the Latins vmbella, since it resembles the circular form of a sun-shade by which women protect their faces from the sun and ward off the noon-day heat. [Cf. Umbel.]

Vmbilicus. Vmbilicus is that part of a fruit which extends into or is hidden within the center. [Obsolete in this sense. Cf. Umbilicus.]

Vngues. By vngues the ancients meant the lowest parts of the leaves of roses and other leafy flowers by which they are attached to their head, and are without color. Or briefly, the lower white portions of rose petals are called vngues. [Cf. Unguis.]